



6,881,654.

**North America  
Intellectual Property Corporation**

P.O. BOX 506, Merrifield, VA 22116, U.S.A.

Voice Mail: 302-729-1562

FAX: 806-498-6673

e-mail: [winstonhsu@naipo.com](mailto:winstonhsu@naipo.com)

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**FROM: Winston Hsu, PATENT AGENT, REG. NO.: 41,526**

**SERIAL NO.: 10/065,568**

**ATTORNEY DOCKET NO.: NAUP0482USA**

**SUBJECT: REQUEST FOR CERTIFICATE OF  
CORRECTION**

**TOTAL PAGES: 8 PAGES (INCLUDING COVER PAGE)**

**Winston Hsu 2005/5/2**

**NAUP0482USA0\_\_AS\_\_1**

PTO/SB/97 (09-04)

Approved for use through 07/31/2006. OMB 0651-0031

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Application Number: 10/065,568

(1) Transmittal Form	1 PAGE
(2) Fee Transmittal Form	1 PAGE
(3) Request for Certificate of Correction	6 PAGES

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**TRANSMITTAL  
FORM**

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Total Number of Pages in This Submission

6

Application Number

10/065,568

Filing Date

10/31/2002

First Named Inventor

Kuo-Ming Chen

Art Unit

2824

Examiner Name

Michael Lebentritt

Attorney Docket Number

NAUP0482USA

**ENCLOSURES (Check all that apply)**

Fee Transmittal Form



Fee Attached



Amendment/Reply



After Final



Affidavits/declaration(s)



Extension of Time Request



Express Abandonment Request



Information Disclosure Statement



Certified Copy of Priority Document(s)

Reply to Missing Parts/  
Incomplete ApplicationReply to Missing Parts  
under 37 CFR 1.52 or 1.53

Drawing(s)



Licensing-related Papers



Petition

Petition to Convert to a  
Provisional ApplicationPower of Attorney, Revocation  
Change of Correspondence Address

Terminal Disclaimer



Request for Refund



CD, Number of CD(s) \_\_\_\_\_



Landscape Table on CD



After Allowance Communication to TC

Appeal Communication to Board  
of Appeals and InterferencesAppeal Communication to TC  
(Appeal Notice, Brief, Reply Brief)

Proprietary Information



Status Letter

Other Enclosure(s) (please identify  
below):-Request for Certificate of  
Correction-a copy of Notice of Recordation of  
Assignment Document

-a copy of the front page of the Patent

Remarks

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name

North America Intellectual Property Corporation

Signature

*Winston Hsu*

Printed name

Winston Hsu

Date

05/02/2005

Reg. No.

41,526

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Effective on 12/08/2004.  
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).**FEE TRANSMITTAL**  
**For FY 2005**☐ Applicant claims small entity status. See 37 CFR 1.27**TOTAL AMOUNT OF PAYMENT** (\$) 0.00**Complete if Known**

Application Number	10/065,568
Filing Date	10/31/2002
First Named Inventor	Kuo-Ming Chen
Examiner Name	Michael Lebentritt
Art Unit	2824
Attorney Docket No.	NAUP0482USA

**METHOD OF PAYMENT** (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): \_\_\_\_\_

☒ Deposit Account Deposit Account Number: **50-3105** Deposit Account Name: North America Intellectual Property Corp.

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☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

**WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

**2. EXCESS CLAIM FEES**

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent	50	25
Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent	200	100
Multiple dependent claims	360	180

**Total Claims**      **Extra Claims**      **Fee (\$)**      **Fee Paid (\$)**      **Multiple Dependent Claims**

- 20 or HP = \_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_      **Fee (\$)**      **Fee Paid (\$)**

HP = highest number of total claims paid for, if greater than 20

**Indep. Claims**      **Extra Claims**      **Fee (\$)**      **Fee Paid (\$)**

- 3 or HP = \_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_

HP = highest number of independent claims paid for, if greater than 3

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

**Total Sheets**      **Extra Sheets**      **Number of each additional 50 or fraction thereof**      **Fee (\$)**      **Fee Paid (\$)**

\_\_\_\_\_ - 100 = \_\_\_\_\_ / 50 = \_\_\_\_\_ (round up to a whole number) x \_\_\_\_\_ = \_\_\_\_\_

**4. OTHER FEE(S)**

Non-English Specification, \$130 fee (no small entity discount)

Other: \_\_\_\_\_

**SUBMITTED BY**

Signature	<i>Winston Hsu</i>	Registration No. (Attorney/Agent) 41,526	Telephone 302-729-1562
Name (Print/Type)	Winston Hsu	Date	05/02/2005

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**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Patent No.: 6,881,654 Issue Date: 04/19/2005  
5 App. No.: 10/065,568 Filing Date: 10/31/2002  
Inventors : Kuo-Ming Chen et al.  
Examiner: Michael Lebentritt Art Unit: 2824  
Docket No.: NAUP0482USA

10 Title: SOLDER BUMP STRUCTURE AND LASER REPAIR PROCESS  
FOR MEMORY DEVIC

To: Commissioner for Patents  
P.O. BOX 1450  
15 Alexandria, VA 22313-1450

Subject: Request for Certificate of Correction of Office Mistake

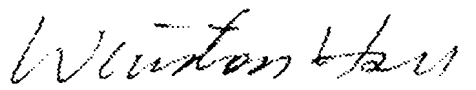
Dear Sir:

20

Upon reviewing the above-identified patent, patentee noted the assignee's name should be corrected. As the agent of record, I hereby request that a Certificate of Correction be issued under 37 CFR 1.322 to correct the assignee's name

25 "United Electronics Corp." into "United Microelectronics Corp.". A copy of the Notice of Recordation of Assignment Document and the front page of the Patent are enclosed herewith.

Respectfully submitted,



Date: May 2, 2005

Winston Hsu, Patent Agent No. 41,526

5 P.O. BOX 506, Merrifield, VA 22116, U.S.A.

Voice Mail: 302-729-1562

Facsimile: 806-498-6673

e-mail : winstonhsu@naipo.com

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Attachment

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- A copy of the front page of the Patent



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RECORDATION DATE: 10/31/2002

REEL/FRAME: 013213/0174  
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:  
CHEN, KUO-MING

DOC DATE: 10/16/2002

ASSIGNOR:  
LIU, HUNG-MIN

DOC DATE: 10/16/2002

ASSIGNEE:  
UNITED MICROELECTRONICS CORP.  
NO.3, LI-HSIN ROAD 2  
SCIENCE-BASED INDUSTRIAL PARK  
HSIN-CHU CITY, TAIWAN

SERIAL NUMBER: 10065568  
PATENT NUMBER:

FILING DATE:  
ISSUE DATE:

ALLYSON PURNELL, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS

US006881654B2

(12) **United States Patent**  
Chen et al.(10) **Patent No.:** **US 6,881,654 B2**  
(45) **Date of Patent:** **Apr. 19, 2005**(54) **SOLDER BUMP STRUCTURE AND LASER REPAIR PROCESS FOR MEMORY DEVICE**(75) Inventors: **Kuo-Ming Chen, Hsin-Chu Hsien**  
(TW); **Hung-Min Liu, Hsin-Chu (TW)**(73) Assignee: **United Electronics Corp., Hsin-Chu**  
(TW)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 22 days.

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\* cited by examiner

(21) Appl. No.: **10/065,568**(22) Filed: **Oct. 31, 2002**(65) **Prior Publication Data**

US 2004/0087129 A1 May 6, 2004

(51) Int. Cl.<sup>7</sup> ..... **H01L 21/20; H01L 21/4763**(52) U.S. Cl. .... **438/497; 438/478; 438/612; 438/614**(58) Field of Search ..... **438/497, 478, 438/753, 612-614**(56) **References Cited****U.S. PATENT DOCUMENTS**

5,977,632 A \* 11/1999 Beddingfield ..... 257/737

*Primary Examiner*—Michael Lebentritt(74) *Attorney, Agent, or Firm*—Winston Hsu(57) **ABSTRACT**

A solder bump structure and laser repair process for memory device include forming a first dielectric layer on a bump pad of a semiconductor wafer. After that, the first dielectric layer is etched to form a contact hole and to expose portions of the bump pad. A second dielectric layer is then formed on a surface of the semiconductor wafer outside of the contact hole. An under bump metallurgy (UBM) process is performed to form a metal layer on a surface of the contact hole, and a solder bump is formed on the metal layer. Finally the laser repair process for memory device is completed.

**9 Claims, 8 Drawing Sheets**